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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,416	09/05/2003	Billy Franklin Beasley JR.	31599/260254	7566

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EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/656,416

Applicant(s)

BEASLEY ET AL.

Examiner

Dennis Cordray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/5/03, 1/24/05</u>   | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance et al (5770013) in view of Clapp (1765860) and further in view of Clark(Pulp Technology and Treatment for Paper, 2<sup>nd</sup> ed, Miller Freeman Publications Inc, San Francisco, (1985), p 473).

Chance et al discloses a 3-ply paperboard comprising wood (cellulose) fibers and sawdust. The wood fiber material is present in an amount of about 20-25% by weight of the paper and comprises from 5-70% sawdust (col 4, lines 36-39 and col 8, lines 32-38). Thus, the amount of sawdust that can be present by weight of the multi-ply paper is from 1 to 17.5%, which significantly overlaps the claimed ranges.

Chance et al does not disclose the particle size of the sawdust.

Clapp discloses a multi-layer liner board or paper comprising a bottom layer of cellulosic fibers and a top layer having 5-20 parts bleached sulphite pulp, 10-20 parts wood flour or sawdust, and 75 to 105 parts other material (Claim 1; p2, lines 5-13, 71-74). The sawdust particles are capable of passing through a 40-80 mesh sieve (up to 420  $\mu$ m). In addition, a TAPPI reference sulfite pulp comprises 82.6% of fibers having an average length between 1.18 and 3.48 mm, thus is not distinguishable from the

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sawdust of the instant invention (see Clark, p 473). The remaining 17.4% of the TAPPI reference sulfite pulp has an average length assumed to be less than 0.2 mm. The bulk of the fibers and sawdust fall within the claimed range of particle size. Also, during the papermaking process much of the finer fraction is not retained in the paper, thus further increasing the fraction of particles in the final paper that lie within the claimed range.

The art of Chance et al, Clapp, Clark and the instant invention are analogous because they deal with the making of paper in general and specifically paperboard having wood particles smaller than 3.175 mm. It would have been obvious to one skilled in the art at the time of the invention to obtain 95% of wood particles in the claimed size range in the paperboard of Chance et al in view of Clapp and further in view of Clark as a functionally equivalent standard process using a well known filler (sawdust).

Claims 5-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance et al in view of Clapp and further in view of Clark, Gomez (5227024) and Qiu et al (5505395).

Chance et al discloses that the three layers are brought into contact before the drying stage of the process (col 5, lines 57-67).

Chance et al, Clapp and Clark do not disclose layers of the multi-layer paperboard having different densities. Chance et al, Clapp and Clark also do not disclose that at least two low density layers are sandwiched between two high density

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layers. Chance et al, Clapp and Clark further do not disclose the sawdust content of at least one high density layer.

Qiu et al discloses a spirally wound paperboard tube having multiple plies of lower and higher densities, wherein the lower density paperboard is at least 3% lower than the higher density paperboard. The tube has at least one lower density layer sandwiched between two higher density structural layers (Abstract). Qiu et al also discloses that in a preferred embodiment, there are at least two centrally located lower density layers (col 3, lines 66-67 and col 4, lines 1-2). Qiu et al further discloses that the plies are coated with adhesive prior to winding to adhere them together (col 8, lines 47-49). Qiu et al teaches that it is well known in the art to use paperboard plies of widely varying densities to form paperboard tubes and that the densities range from 0.5 to 0.9 g/cm<sup>3</sup> (col 6, lines 60-66).

Qiu et al teaches that the density of paperboard can be varied by varying raw materials or additives (col 6, line 67 and col 7, lines 1-3). Qiu et al does not teach that adding sawdust can change the density of the paperboard.

Gomez discloses a process for reducing the density of a paper by adding inexpensive vegetable filler (such as waste wood from sawing and planing processes) (Abstract; col 5, lines 58-63).

The art of Chance et al, Clapp, Clark, Qiu et al, Gomez and the instant invention are analogous because they deal with the making of paperboard and paperboard products. It would have been obvious to one skilled in the art at the time of the invention to use layers of different densities in the paperboard of Chance et al in view of

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Clapp and further in view of Clark, Qiu et al and Gomez to lower the cost of the paperboard (via addition of sawdust) yet maintain structural strength with the high density layer. It would have also been obvious to include sawdust in the high density layer for cost savings or to omit it if higher strength is needed. It would have been obvious to adhere the layers together to incorporate strength into the final multi-layered sheet. Since a common use of paperboards is the formation of multi-layered paperboard tubes, it would have been obvious to a person of ordinary skill in the art to make paperboard tubes having multiple layers with the inexpensive lower density layers in the center of the wall sandwiched by the stronger high density layers to provide structural strength.

Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance et al in view of Clapp and further in view of Clark, Gomez, Qiu et al and Howard et al (6033352).

Chance et al, Clapp, Clark, Gomez and Qiu et al do not disclose that a paperboard ply wound to form a tube is overlapped on itself.

Howard et al discloses various methods for winding paperboard plies to form a spirally wound tube. In one method, the final ply is wrapped to overlap itself at the seam (col 4, lines 37-41).

The art of Chance et al, Clapp, Clark, Qiu et al, Gomez, Howard et al and the instant invention are analogous because they deal with the making of paperboard and paperboard products.

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It would have been obvious to one skilled in the art at the time of the invention to overlap the paperboard winding on itself to make a tube with the paperboard of Chance et al in view of Clapp and further in view of Clark, Qiu et al, Gomez and Howard et al to increase the strength of the the tube.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [Wheelwright (1455979), Morrell (2367419), Yoshii (5495810), Howard et al (6033352)].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DRC



**SEAN VINCENT  
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